



Advanced Fertilizers Plant Operations

Course Introduction:

This training course will provide an in-depth understanding of advanced operations within a fertilizers plant, covering a wide range of critical systems and processes. Participants will gain valuable insights into the complexities of Carbon Monoxide (CO) and Shift Conversion, Desorption and Hydrolization systems, CO shift conversion, and Desulphurization techniques.

The course will also explore key processes such as the Evaporation system, Methanation Process, and Reformer byproducts (Steam and Air). Additionally, it will address systems related to Granulation, low-temperature Methanation, and the Primary and Secondary Reformers. Topics like the Steam and Condensate system, Urea Recirculation System, and Urea Synthesis process will be covered in detail, along with Waste Heat Recovery and the Boiler Feedwater (BFW) and Steam system.

Course Objectives:

By the end of the program, participants will be able to:

- Evaluation and selection of processes to remove acid gases (H₂S, CO₂, COS, CS₂, mercaptans, etc) from gas and NGLs
- The advantages and disadvantages of available gas treating technology and processes
- How to estimate solvent circulation rates, energy requirements and equipment sizes
- Recognize and evaluate solutions to common problems
- Sulfur recovery technologies, including an overview of the Claus Sulfur process
- How to select the proper sulfur recovery process given differing process conditions

Who Should Attend?

This course is intended for all training ideal for professionals involved in the operation, maintenance, and optimization of fertilizers production plants. of the principles of these process operations.

Course Outline:

- Start-up of the unit
- Potential incidents during start-up
- Operation of the unit
- Potential incidents during routine operation
- Shut-down of the unit
- Potential incidents during emergency shut-down
- Operation mistakes with long term impact

- Natural Gas Desulphurisation
- Natural Gas Compression Unit
- Steam Reforming
- Waste Heat Recovery
- Process Air Compressor
- Secondary Reformer
- CO - Shift Conversion
- Carbon Monoxide and Shift Conversion
- Desorption and Hydrolization
- Desulphurization
- Evaporation
- Methanation
- Recirculation
- Reformer byproducts (Steam and Air)
- Reformer Catalyst
- Synthesis
- Case study
- Desorption and Hydrolization system
- Desulphurization
- Evaporation system
- Granulation system
- low temperature CO shift conversion
- Methanation Process
- Primary and Secondary Reformer
- steam and condensate system
- Urea recirculation system
- Urea Synthesis process
- Waste Heat Recovery, BFW and Steam System Operations

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test

- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work

Course Fees:

To be advice as per course location. This rate includes participant's manual, Hands-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session

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